REMARKS

This Response is in reply to the Office Action rejection mailed on 12 December 2007. Claims 1-25 were pending in the application. Claims 1-4, 7-9, 14-20, 24, and 25 were rejected, and claims 5, 6, 10, 12, 13, and 21-23 were objected to.

§102 Rejections

Claims 1, 4, 7, 11, 14, 15, 17, and 18 were rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent Publication No. 2001/0017848 (hereinafter Tiedemann). These rejections fail as a matter of law because Tiedemann does not teach each and every limitation of the claims at issue.

Independent claim 1 includes the following text:

> 1. A method of adjusting the power headroom in a mobile station, comprising:
> receiving a load indication from a base station indicative of a reverse link load; and
> adjusting the power headroom of the mobile station based on the load indication.

(Emphasis added.)

The rejection of claim 1 depends on the assertion that the power control bits sent by Tiedemann's base station for controlling the transmit powers of mobile stations operating on Reverse Access Channels (R-ACHs) are the claimed indications of reverse link load, and that mobile stations change their power headroom as claimed by adjusting their transmit powers in response to Tiedemann's power control bits. See, particularly, the explicit arguments appearing in Item 2, on p. 2 of the Office Action (OA).

Tiedemann's R-ACH power control bits cannot legally be construed as the claimed load indication indicative of reverse link load. According to the explicit and unambiguous teachings in Tiedemann (e.g., see paragraph [0046]), one or more embodiments of Tiedemann's R-ACH power control bits are used to control congestion on R-ACHs. At most, then, the Patent Office

can fairly state that Tiedemann's R-ACH power control bits indicate R-ACH congestion, which is not the same as indicating reverse link load. Indeed, Tiedemann's Background—paragraph [0010]—teaches that R-ACH congestion is a contributor to reverse link loading, but explicitly states that reverse link capacity is shared by R-ACHs and other channels (traffic, control, etc.).

Thus, Tiedemann explicitly teaches the use of R-ACH power control bits to indicate and control congestion on one or more R-ACHs, and not to control or indicate the reverse link load of the base station transmitting those R-ACH power control bits. Viewed another way, Tiedemann uses R-ACH power control bits to help avoid overloading of the reverse link, but in no way can those R-ACH power control bits be argued as indicating reverse link load.

Further, a mobile station adjusting its transmit power responsive to Tiedemann's power control bits cannot be legally construed as the claimed limitation of adjusting power headroom responsive to (reverse link) load indications. The instant specification explains that "power headroom" at a mobile station is reserve transmit power that the mobile station maintains, for example, so that it can increase its transmit power responsive to ARQ retransmission requests. See the Summary and paragraphs [0028], [0029] of the instant application, for example. Correspondingly, see Fig. 5 of the instant application, which shows that power headroom is the difference between a maximum power P_{MAX} of a mobile station and a power headroom threshold P_T. Example embodiments in the instant specification teach that a mobile station adjusts its power headroom by adjusting the level of the power headroom threshold P_T relative to P_{MAX}.

While the examiner might argue that all real-world mobile stations in practice have a maximum transmit power, Tiedemann never discusses or even hints at any type of maximum transmit power consideration for Tiedemann's mobile stations. More critically, Tiedemann never once mentions or even hints at the concept of transmit power headroom at a mobile station. And it is painfully clear from even a generous reading of Tiedemann that Tiedemann does not teach

a mobile station that adjusts its power headroom responsive to an indication of reverse link loading, or even responsive to Tiedemann's R-ACH power control bits.

A mobile station changing its transmit power responsive to power control bits transmitted by a base station cannot as a matter of law be argued as teaching a mobile station that adjusts it transmit power headroom—explicitly reserved power headroom relative to a maximum power or other limit—responsive to receiving reverse link load indicators. For at least these reasons, the rejection of claim 1 and its dependent claims 4, 7, and 11 as anticipated by Tiedemann fails as a matter of law and must be withdrawn.

Regarding claim 14, it includes the following text:

> 14. A mobile station comprising:
> a receiver for receiving a load indication from a base station;
> a transmitter for transmitting signals to the base station at a variable data transmission rate dependent on the load indication; and
> a controller to vary a power headroom threshold for the transmitter based on the load indication from the base station.

(Emphasis added.) Note that "receiving load indication" is changed to "receiving a load indication" by amendment to claim 14 herein—i.e., the article "a" is added for grammatical correctness.

As noted, Tiedemann is silent regarding transmit power headroom at mobile stations (or anywhere else). Tiedemann not once mentions or even hints at the concept of a power headroom threshold; thus, by definition, Tiedemann provides no teachings regarding the claimed varying of a mobile station's power headroom responsive to a load indication. Notably, the argument that Tiedemann's mobile stations have a controller of some sort to respond to power control commands is irrelevant to the question of whether they have the claimed controller that varies a transmit power headroom threshold responsive to receiving base station load indicators.

Lacking any teachings relevant to these explicitly claimed limitations, Tiedemann as a matter of law does not anticipate claim 14 and its dependent claims 15, 17, and 18. Applicant respectfully submits that the rejection must be withdrawn.

§103 Rejections

Claims 2, 3, and 16 were rejected under 35 U.S.C. 103(a) as being unpatentable over Tiedemann in view of U.S. Patent Publication No. 2002/0110101 (hereinafter Gopalakrishnan).

With regard to claims 2, 3, and 16, Applicant notes that the rejection relies primarily on Tiedemann, and relies on Gopalakrishnan solely for teaching using an upper layer message on a common control channel. However, as pointed out above, Tiedemann does not disclose all of the limitations of independent claims 1 and 14 regarding receiving the load indication from the base station and adjusting the power headroom of the mobile station based on the load indication. Gopalakrishnan does not remedy this failing of Tiedemann, nor does the Examiner assert otherwise. Therefore, the combination of Tiedemann and Gopalakrishnan, assuming *arguendo* such can be combined, fails to make a *prima facie* case of obviousness since the combination does not teach or suggest all the claim limitations. Accordingly, Applicant submits that dependent claims 2, 3, and 16 define patentable subject matter over the cited art.

Claims 8, 9, 19, and 20 were rejected under 35 U.S.C. 103(a) as being unpatentable over Tiedemann in view of U.S. Patent Publication No. 2003/0179704 (hereinafter Lakkakorpi).

With regard to claims 8, 9, 19, and 20, Applicant notes that the rejection relies primarily on Tiedemann, and relies on Lakkakorpi solely for teaching calculating a weighted average of two or more load indications. However, as pointed out above, Tiedemann does not teach or suggest the limitations of independent claims 1 and 14. Lakkakorpi does not provide such teachings, nor does the Examiner assert otherwise. Therefore, the combination of Tiedemann

and Lakkakorpi fails to make a *prima facie* case of obviousness since the combination does not teach or suggest all the claim limitations.

Moreover, Applicant submits that Lakkakorpi does not combine in any obvious or even sensible way with Tiedemann. Tiedemann teaches a base station that generates R-ACH power control bits to control transmit powers of one or more mobile stations accessing the base station on a reverse link. On the other hand, Lakkakorpi teaches admission control in an IP network where a new flow is admitted or rejected based on computing a load for the IP link that will be used to support the new flow. Lakkakorpi's loads, as identified by the examiner in Fig. 5, fundamentally relate to defined link capacities in bits per second—see paragraph [0042]. In contrast, Tiedemann's R-ACH congestion concerns relate to rises in noise and interference from too many mobile stations simultaneously accessing the same R-ACH, which changes as a function of channel conditions.

Because Tiedemann teaches R-ACH power control bits that can be used to control congestion on a R-ACH channel, which is not the same as providing indicators of actual reverse link loading on a base station, and because Lakkakorpi's link load concerns are entirely different than Tiedemann's R-ACH congestion concerns, Applicant submits that the evidence contradicts the assertion motivation/obviousness to combine these references.

For at least these reasons, Applicant submits that dependent claims 8, 9, 19, and 20 define patentable subject matter over the cited art.

Claims 24 and 25 were rejected under 35 U.S.C. 103(a) and being unpatentable over Tiedemann in view of U.S. Patent Publication No. 2004/0029604 (hereinafter Raaf).

As discussed above for independent claim 1, Tiedemann has absolutely nothing to do with power headroom, much less adjusting a power headroom threshold of the mobile station. Raaf does not remedy this failing of Tiedemann, nor does the Examiner assert otherwise. Therefore, the combination of Tiedemann and Raaf, assuming *arguendo* such can be

combined, fails to make a *prima facie* case of obviousness since the combination does not teach or suggest all the claim limitations. Accordingly, Applicant submits that independent claims 24 and 25 define patentable subject matter over the cited art.

Drawing

Applicant submits a replacement drawing sheet for Fig. 5, as part of this response. In Fig. 5, an example range of the power headroom threshold P_T is illustrated by upper and lower bounds P_{TMAX} and P_{TMIN}, respectively. In the originally-submitted diagram, the lower bound was self-evidently mislabeled as P_{TMAX}. No new matter is added with this drawing correction. See, for example, paragraph [0033], which correctly names the illustrated maximum and minimum bounds.

Closing

Tiedemann fails to teach a load indication indicative of a reverse link load and provides no teachings relevant in any way to the power headroom claim limitations at issue. Applicant therefore respectfully requests withdrawal of all rejections and allowance of all claims.

Respectfully submitted,

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